



SEQUENCE LISTING

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CHANG, CHIEN HSING
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<120> POLYVALENT PROTEIN COMPLEX

<130> 41133-0006US1

<140> 10/829,388

<141> 2004-04-22

<150> 60/464,532

<151> 2003-04-22

<150> 60/525,391

<151> 2003-11-24

<160> 20

<170> PatentIn version 3.2

<210> 1

<211> 370

<212> PRT

<213> Artificial Sequence

<220>

<223> Chimeric sequence from multiple species

<400> 1

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1 5 10 15

Asp Leu Val Lys Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser
20 25 30

Gly Phe Thr Phe Ser Ile Tyr Thr Met Ser Trp Leu Arg Gln Thr Pro
35 40 45

Gly Lys Gly Leu Glu Trp Val Ala Thr Leu Ser Gly Asp Gly Asp Asp
50 55 60

Ile Tyr Tyr Pro Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
65 70 75 80

Asn Ala Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu
85 90 95

Asp Thr Ala Leu Tyr Tyr Cys Ala Arg Val Arg Leu Gly Asp Trp Asp
 100 105 110

Phe Asp Val Trp Gly Gln Gly Thr Thr Val Ser Val Ser Ser Gly Gly
 115 120 125

Gly Gly Ser Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala
 130 135 140

Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val
 145 150 155 160

Gly Thr Ser Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys
 165 170 175

Leu Leu Ile Tyr Trp Thr Ser Thr Arg His Thr Gly Val Pro Ser Arg
 180 185 190

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser
 195 200 205

Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Leu
 210 215 220

Tyr Arg Ser Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Leu Glu
 225 230 235 240

Gly Gly Gly Ser Glu Val Gln Leu Val Glu Ser Gly Gly Gly Val Val
 245 250 255

Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ser Ala Ser Gly Phe Asp
 260 265 270

Phe Thr Thr Tyr Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly
 275 280 285

Leu Glu Trp Ile Gly Glu Ile His Pro Asp Ser Ser Thr Ile Asn Tyr
 290 295 300

Ala Pro Ser Leu Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys
 305 310 315 320

Asn Thr Leu Phe Leu Gln Met Asp Ser Leu Arg Pro Glu Asp Thr Gly

325 330 335

Val Tyr Phe Cys Ala Ser Leu Tyr Phe Gly Phe Pro Trp Phe Ala Tyr
340 345 350

Trp Gly Gln Gly Thr Pro Val Thr Val Ser Val Asp His His His His
355 360 365

His His
370

<210> 2
<211> 363
<212> PRT
<213> Artificial Sequence

<220>
<223> Chimeric sequence from multiple species

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Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
20 25 30
Gln Asp Val Gly Thr Ser Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys
35 40 45
Ala Pro Lys Leu Leu Ile Tyr Trp Thr Ser Thr Arg His Thr Gly Val
50 55 60
Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr
65 70 75 80
Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln
85 90 95
Tyr Ser Leu Tyr Arg Ser Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105 110
Arg Gly Gly Gly Gln Phe Met Glu Val Gln Leu Val Glu Ser Gly Gly
115 120 125
Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ser Ala Ser

130		135		140
Gly Phe Asp Phe Thr Thr Tyr Trp Met Ser Trp Val Arg Gln Ala Pro				
145		150		155 160
Gly Lys Gly Leu Glu Trp Ile Gly Glu Ile His Pro Asp Ser Ser Thr				
	165		170	175
Ile Asn Tyr Ala Pro Ser Leu Lys Asp Arg Phe Thr Ile Ser Arg Asp				
	180		185	190
Asn Ala Lys Asn Thr Leu Phe Leu Gln Met Asp Ser Leu Arg Pro Glu				
	195		200	205
Asp Thr Gly Val Tyr Phe Cys Ala Ser Leu Tyr Phe Gly Phe Pro Trp				
	210		215	220
Phe Ala Tyr Trp Gly Gln Gly Thr Pro Val Thr Val Ser Gly Gly Gly				
225		230		235 240
Gly Ser Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ala Val Ser				
	245		250	255
Pro Gly Glu Arg Val Thr Leu Thr Cys Lys Ser Ser Gln Ser Leu Phe				
	260		265	270
Asn Ser Arg Thr Arg Lys Asn Tyr Leu Gly Trp Tyr Gln Gln Lys Pro				
	275		280	285
Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser				
	290		295	300
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr				
305		310		315 320
Leu Thr Ile Asn Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys				
	325		330	335
Thr Gln Val Tyr Tyr Leu Cys Thr Phe Gly Ala Gly Thr Lys Leu Glu				
	340		345	350
Leu Lys Arg Leu Asp His His His His His His				
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<210> 3
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized Oligonucleotide

<400> 3
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26

<210> 4
 <211> 26
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized oligonucleotide

<400> 4
 gatcccctgc agggagctca ctagta

26

<210> 5
 <211> 43
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized oligonucleotide

<400> 5
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43

<210> 6
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized oligonucleotide

<400> 6
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29

<210> 7
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthesized oligonucleotide

<400> 7
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<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthesized oligonucleotide

<400> 8
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<210> 9
<211> 1110
<212> DNA
<213> Artificial Sequence

<220>
<223> Chimeric sequence from multiple organisms

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atgtcttggc ttgccagac tccgggaaag gggctggagt gggctgcaac cctgagtgg 180
gatggatgatg acatctacta tccagacagt gtgaagggc gattcaccat ctccagagac 240
aatgccaaga acagcctata tctgcagatg aacagtctaa gggctgagga cacggccttg 300
tattactgtg caaggggtgcg acttggggac tgggacttcg atgtctgggg ccaagggacc 360
acggctctccg tctctcagg aggtggcgga tccgacatcc agctgacca gagcccaagc 420
agcctgagcg ccagcgtggg tgacagagt accatcacct gtaaggccag tcaggatgtg 480
ggacttctg tagcttggtg ccagcagaag ccaggtaagg ctccaaagct gctgatctac 540
tggacatcca cccggcacac tgggtgtgcca agcagattca gcggtagcgg tagcgggtacc 600
gacttcacct tcaccatcag cagcctccag ccagaggaca tcgccaccta ctactgccag 660
caatatagcc tctatcggtc gtccggccaa gggaccaagg tggaaatcaa acgtctcgag 720
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tccctgcgcc tgtctgtctc cgcactctggc ttcgatttca ccacatattg gatgagttgg 840
gtgagacagg cacctggaaa aggtcttgag tggattggag aaattcatcc agatagcagt 900
acgattaact atgcgccgtc tctaaaggat agatttaca tatcgcgaga caacgccaa 960

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aacacattgt tcctgcaaat ggacagcctg agacccgaag acaccggggt ctatttttgt 1020
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gtctccgtcg accatcatca tcatcatcat 1110

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<210> 10
<211> 1089
<212> DNA
<213> Artificial Sequence

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<220>
<223> Chimeric sequence from multiple organisms

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tggtaccagc agaagccagg taaggctcca aagctgctga tctactggac atccaccgg 180
cacactggtg tgccaagcag attcagcggg agcggtagcg gtaccgactt caccttcacc 240
atcagcagcc tccagccaga ggacatcgcc acctactact gccagcaata tagcctctat 300
cggtcgttcg gccaaaggac caagggtgaa atcaaactg gaggtggcca attcatggag 360
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tgctccgcat ctggcttcga tttcaccaca tattggatga gttgggtgag acaggcacct 480
ggaaaagggtc ttgagtggat tggagaaatt catccagata gcagtacgat taactatgcg 540
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caaatggaca gcctgagacc cgaagacacc ggggtctatt tttgtgcaag cctttacttc 660
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catcatcat 1089

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<210> 11

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<211> 364

<212> PRT

<213> Artificial Sequence

<220>

<223> Chimeric sequence from multiple species

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 20 25 30

Tyr Thr Met Ser Trp Leu Arg Gln Thr Pro Gly Lys Gly Leu Glu Trp
 35 40 45

Val Ala Thr Leu Ser Gly Asp Gly Asp Asp Ile Tyr Tyr Pro Asp Ser
 50 55 60

Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
65 70 75 80

Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu Tyr Tyr
 85 90 95

Cys Ala Arg Val Arg Leu Gly Asp Trp Asp Phe Asp Val Trp Gly Gln
 100 105 110

Gly Thr Thr Val Ser Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Gln
 115 120 125

Leu Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
 130 135 140

Thr Ile Thr Cys Lys Ala Ser Gln Asp Val Gly Thr Ser Val Ala Trp
145 150 155 160

Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Trp Thr
 165 170 175

Ser Thr Arg His Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
 180 185 190

Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile

195	200	205
Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Leu Tyr Arg Ser Phe Gly Gln 210 215 220		
Gly Thr Lys Val Glu Ile Lys Arg Leu Glu Gly Gly Gly Ser Glu Val 225 230 235 240		
Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu 245 250 255		
Arg Leu Ser Cys Ser Ala Ser Gly Phe Asp Phe Thr Thr Tyr Trp Met 260 265 270		
Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly Glu 275 280 285		
Ile His Pro Asp Ser Ser Thr Ile Asn Tyr Ala Pro Ser Leu Lys Asp 290 295 300		
Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Phe Leu Gln 305 310 315 320		
Met Asp Ser Leu Arg Pro Glu Asp Thr Gly Val Tyr Phe Cys Ala Ser 325 330 335		
Leu Tyr Phe Gly Phe Pro Trp Phe Ala Tyr Trp Gly Gln Gly Thr Pro 340 345 350		
Val Thr Val Ser Val Asp His His His His His 355 360		
<210> 12		
<211> 358		
<212> PRT		
<213> Artificial Sequence		
<220>		
<223> Chimeric sequence from multiple species		
<400> 12		
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Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val Gly Thr		

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Ser	Val	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ala	Pro	Lys	Leu	Leu
		35					40					45			
Ile	Tyr	Trp	Thr	Ser	Thr	Arg	His	Thr	Gly	Val	Pro	Ser	Arg	Phe	Ser
	50					55					60				
Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Phe	Thr	Ile	Ser	Ser	Leu	Gln
65						70					75				80
Pro	Glu	Asp	Ile	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Tyr	Ser	Leu	Tyr	Arg
				85					90					95	
Ser	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	Ile	Lys	Arg	Gly	Gly	Gly	Gln
			100					105					110		
Phe	Met	Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Val	Val	Gln	Pro
		115					120					125			
Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ser	Ala	Ser	Gly	Phe	Asp	Phe	Thr
	130					135					140				
Thr	Tyr	Trp	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu
145						150					155				160
Trp	Ile	Gly	Glu	Ile	His	Pro	Asp	Ser	Ser	Thr	Ile	Asn	Tyr	Ala	Pro
				165					170					175	
Ser	Leu	Lys	Asp	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Thr
			180						185				190		
Leu	Phe	Leu	Gln	Met	Asp	Ser	Leu	Arg	Pro	Glu	Asp	Thr	Gly	Val	Tyr
		195					200					205			
Phe	Cys	Ala	Ser	Leu	Tyr	Phe	Gly	Phe	Pro	Trp	Phe	Ala	Tyr	Trp	Gly
	210					215					220				
Gln	Gly	Thr	Pro	Val	Thr	Val	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Val
225						230					235				240
Met	Thr	Gln	Ser	Pro	Ser	Ser	Leu	Ala	Val	Ser	Pro	Gly	Glu	Arg	Val
				245					250					255	

Thr Leu Thr Cys Lys Ser Ser Gln Ser Leu Phe Asn Ser Arg Thr Arg
 260 265 270

Lys Asn Tyr Leu Gly Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys
 275 280 285

Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val Pro Asp Arg
 290 295 300

Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser
 305 310 315 320

Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Thr Gln Val Tyr Tyr
 325 330 335

Leu Cys Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Leu Asp
 340 345 350

His His His His His His
 355

<210> 13

<211> 1152

<212> DNA

<213> Artificial Sequence

<220>

<223> Chimeric sequence from multiple organisms

<400> 13

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tcctgtgcag cctctggatt cactttcagt atttacacca tgtcttggct tcgccagact	180
ccgggaaagg ggctggagtg ggtcgcaacc ctgagtggtg atggtgatga catctactat	240
ccagacagtg tgaagggtcg attcaccatc tccagagaca atgccaagaa cagcctatat	300
ctgcagatga acagtctaag ggctgaggac acggccttgt attactgtgc aaggggtgcga	360
cttggggact gggacttcga tgtctggggc caagggacca cgggtctccgt ctccctcagga	420
ggtggcggat ccgacatcca gctgaccag agcccaagca gcctgagcgc cagcgtgggt	480
gacagagtga ccatcacctg taaggccagt caggatgtgg gtacttctgt agcttggtac	540

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cagcagaagc caggtaaggc tccaaagctg ctgatctact ggacatccac ccggcacact      600
gggtgtgccaa gcagattcag cggtagcggg agcgggtaccg acttcacctt caccatcagc      660
agcctccagc cagaggacat cgccacctac tactgccagc aatatagcct ctatcgggtcg      720
ttcggccaag ggaccaaggt ggaaatcaaa cgtctcgagg gcggaggtag cgagggtccaa      780
ctgggtggaga gcggtggagg tgttgtgcaa cctggccggg ccctgcgcct gtcctgctcc      840
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ctaaaggata gatttacaat atcgcgagac aacgccaaga acacattggt cctgcaaatt      1020
gacagcctga gacccaaga caccgggggtc tatttttgtg caagccttta cttcggcttc      1080
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<210> 14

<211> 1134

<212> DNA

<213> Artificial Sequence

<220>

<223> Chimeric sequence from multiple organisms

<400> 14

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atcacctgta aggccagtca ggatgtgggt acttctgtag cctgggtacca gcagaagcca      180
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gaggacatcg ccacctacta ctgccagcaa tatagcctct atcggtcggt cggccaaggg      360
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gatttcacca catattggat gagttgggtg agacaggcac ctggaaaagg tcttgagtgg      540
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cccgaagaca ccgggggtcta tttttgtgca agcctttact tcggcttccc ctgggtttgct      720
tattggggcc aagggacccc ggtcaccgtc tccggaggcg gtggatccga cattgtgatg      780

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acacaatctc catcctccct ggctgtgtca cccggggaga gggtcactct gacctgcaaa	840
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caggctgaag acgtggcagt ttattactgc actcaagttt attatctgtg cacgttcggg	1080
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<210> 15

<211> 9116

<212> DNA

<213> Artificial Sequence

<220>

<223> Chimeric sequence from multiple organisms

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gcaccaact gatcttcagc atcttttact ttcaccagcg tttctgggtg agcaaaaaca	1560
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cttctcgtag acttcaaact tatacttgat gcctttttcc tctggacct cagagaggac	2220
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